

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/001170

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: H01L 31/052, H02N 6/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: (H01L or H02N or F24J) and (PHOTOVOLT or SOLAR or SUN or PHOTOCCELL) and {[(COOL+ or (TEMP or HEAT)(4D)(REDUC+ or CONDUCT+ or CARR+ or EXTRACT+ or TRANSFER+ or LOWER+ or DISSIPAT+ or REMOV+ or EXCHANG+))] or [((SURFACE AREA) or POROUS or LABYRINTH? or HOLES or GAPS or RANDOM or CONVOLUT+ or PASSAGE+ or PATHWAYS or CHANNELS)] or [(BEADS or RODS or BARS or BALL+ or SHAPE+ or MASS+ or PILE+)] } and (WELD+ or SINTER+ or MOULD+ or HEAT+ or MELT+) and (COOLANT or (COOL+(4D)(FLUID or LIQUID))

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 1996/007857 A (REKSTAD) 14 March 1996	
A	US 5 092 767 A (DEHLSSEN) 3 March 1992	
A	GB 1 541 221 A (DRAKE) 28 February 1979	
A	WO 2001/094006 A (ABB LUMMUS GLOBAL, INC) 13 December 2001	
A	WO 1999/009356 A (MAYRHOFER) 25 February 1999	
A	WO 2002/080286 A (SOLAR SYSTEMS PTY LTD) 10 October 2002	

☐ Further documents are listed in the continuation of Box C ☒ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
8 October 2004

Date of mailing of the international search report

15 OCT 2004

Name and mailing address of the ISA/AU
AUSTRALIAN PATENT OFFICE
PO BOX 200, WODEN ACT 2606, AUSTRALIA
E-mail address: pct@ipaustalia.gov.au
Facsimile No. (02) 6285 3929

Authorized officer

S. T. PRING

Telephone No : (02) 6283 2210

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2004/001170

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member		
WO 1996/007857	AU 34864/95, (698042)	CA 2 198 897	DE 695 02 957
	EP 776 448	JP 10/502728	
US 5 092 767	NONE		
GB 1 541 221	NONE		
WO 2001/094006	AU 65326/01		
WO 1999/009356	EP 897 090	AU 87182/98,	JP 2001/515198
WO 2002/080286	US 2004103680	EP 1 374 317	
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.			
END OF ANNEX			

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001170

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: H01L 31/052, H02N 6/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: (H01L or H02N or F24J) and (PHOTOVOLT or SOLAR or SUN or PHOTOCELL) and {((COOL+ or (TEMP or HEAT)(4D)(REDUC+ or CONDUCT+ or CARR+ or EXTRACT+ or TRANSFER+ or LOWER+ or DISSIPAT+ or REMOV+ or EXCHANG+))} or [((SURFACE AREA) or POROUS or LABYRINTH? or HOLES or GAPS or RANDOM or CONVOLUT+ or PASSAGE+ or PATHWAYS or CHANNELS)] or [(BEADS or RODS or BARS or BALL+ or SHAPE+ or MASS+ or PILE+)] } and (WELD+ or SINTER+ or MOULD+ or HEAT+ or MELT+) and (COOLANT or (COOL+(4D)(FLUID or LIQUID))

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 1996/007857 A (REKSTAD) 14 March 1996	
A	US 5 092 767 A (DEHLSSEN) 3 March 1992	
A	GB 1 541 221 A (DRAKE) 28 February 1979	
A	WO 2001/094006 A (ABB LUMMUS GLOBAL, INC) 13 December 2001	
A	WO 1999/009356 A (MAYRHOFFER) 25 February 1999	
A	WO 2002/080286 A (SOLAR SYSTEMS PTY LTD) 10 October 2002	

☐ Further documents are listed in the continuation of Box C☒ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 8 October 2004	Date of mailing of the international search report 15 OCT 2004
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized officer S. T. PRING Telephone No : (02) 6283 2210

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2004/001170

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member		
WO 1996/007857	AU 34864/95, (698042)	CA 2 198 897	DE 695 02 957
	EP 776 448	JP 10/502728	
US 5 092 767	NONE		
GB 1 541 221	NONE		
WO 2001/094006	AU 65326/01		
WO 1999/009356	EP 897 090	AU 87182/98,	JP 2001/515198
WO 2002/080286	US 2004103680	EP 1 374 317	
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.			
END OF ANNEX			